

EEL6935: Selected Topics in Networking

Spring 2004

Instructor: Professor Yuguang “Michael” Fang

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Office Hours:

Textbook: *Data Networks*, 2nd Edition, D. Bertsekas and R. Gallager, Prentice-Hall, 1992.

References: 1. *Telecommunications Networks: Protocols Modeling and Analysis* by Mischa Schwartz, Addison-Wesley, 1987; 2. *Queueing Systems I* by L. Kleinrock, John Wiley & Sons, 1975. 3. Technical papers.

Syllabus:

1. . Probability basics and Markov chain theory
2. . Queueing model basics and Little’s law
3. M/M/1, M/G/1, G/M/1 and priority queues
4. Time-reversibility and multidimensional queueing models
5. Queueing networks: Jackson’s theorem and product form
6. Queueing networks: Generalizations of Jackson’s theorem
7. Matrix geometric approach: quasi-birth-death process (QBD)
8. Selected topics in wireless cellular networks
9. Selected topics in wireless ad hoc networks
10. Selected topics in Wireless sensor networks

Grading: Grades are based 20% on homework, 50% on one exam, 30% on project (including presentation). Overall average $> 90\%$ is guaranteed an *A*, $> 80\%$ is guaranteed a *B*, etc. No late homework is accepted.

Honor code: All students must follow the honor code of the University of Florida. The code is available on the course webpage.